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(54) Title: CONTROLLED MODULATION OF AMINO ACID SIDE CHAIN LENGTH OF PEPTIDE ANTIGENS.

(57) **Abstract:** The invention provides a method for the creation of peptide antigens comprising epitopes with at least a first modification comprising a shortened or lengthened amino acid side chain. By extension or shortening of the side chain with CH₃/CH₂ groups, for example, made by computer assisted modeling of the tumor antigen (peptide) bound in the MHC-I-groove, immunogenicity can be improved with minimal modification of adjacent tertiary structure, thereby avoiding cross-reactivity. Provided by the invention are methods of creating such antigens, as well as methods for therapeutic or prophylactic treatment of various conditions comprising administration of the antigens.

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